



COPY OF PAPERS
ORIGINALLY FILED

TI-19646

CONSTRUCTION OF PHASE CHANGE MATERIAL EMBEDDED
ELECTRONIC CIRCUIT BOARDS AND ELECTRONIC CIRCUIT
BOARD ASSEMBLIES USING POROUS AND FIBROUS MEDIA

COPY

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

This invention relates to heat sinks and, more specifically, to heat sinks wherein heat is absorbed by the phase change of a phase change material.

RECEIVED

JUL 23 2002

TECHNOLOGY CENTER R3700

BRIEF DESCRIPTION OF THE PRIOR ART

For certain applications, electronic circuit board and component heat sinks are built with embedded phase change material (PCM). Phase change materials for such purposes are well known in the art, an example thereof being a wax which preferably has a unitary melting temperature, paraffins of this type being readily available and well known. The PCM absorbs waste heat as it changes from the solid state to the liquid state. PCMs are also available which can further change from the liquid state to the gaseous state or merely operate in the latter two phase states. Currently, heat sinks which use a PCM are built in several ways. One way is to machine thermally conductive fins in a thermally conductive plate, such as, for example, aluminum or copper. PCM is poured into a cavity containing the fins and a lid is used to seal the PCM